



***kobold*** D 1600 | EB 800.1600


Operating instructions | Bedienungsanleitung | Mode d'emploi





## Before use

Please read all the information contained in these operating instructions carefully. They contain important instructions for use, safety and maintenance of the appliance. Keep these operating instructions in a safe place and pass them on to further users if necessary. Observe the safety instructions.

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# ATTENTION! IMPORTANT SAFETY INSTRUCTIONS

## **D 1600 | EB 800.1600**

- > Read carefully before starting up!
- > The equipment should be used exclusively by qualified personnel.
- > Use only a complete and undamaged connection cable. Position the cable so that it will not be tripped over or make contact with hot surfaces. If an extension cable is necessary, ensure that a cable is used with a current rating at least equal to that of the ballast. Cables rated for less amperage than the appliance may overheat.
- > For safety reasons, the ballast unit may only be operated with an earthed mains (AC-line) plug. When the appliance is switched on, the yellow LED light must illuminate.
- > Avoid incorrect use of any kind and be particularly careful not to obstruct the natural circulation of air that keeps the lamp and ballast unit cool.
- > The ballast unit and lamp must not be exposed to moisture. This could cause dangerous electric discharges on contact!
- > To minimise the risk of fire, electric shock, or injury to persons, use exclusively accessories recommended by the manufacturer.
- > The equipment must not be used in explosion-hazard areas.
- > The lamp and accessory attachments may heat up to high temperatures. Please handle with care.
- > When these units are used suspended, they must always be secured with a steel cable.
- > To protect against the effects of radiated heat, the lamp must not be directed at flammable surfaces and/or surfaces sensitive to heat or any objects from less than a minimum distance of 2 meters.
- > In order to achieve maximum service life from the lamp, the heating up process of approx. 1 minute should not be interrupted.
- > Use the lamp only with a reflector or adapter with undamaged safety glass. Lamps can burst. The safety glass will retain hot fragments.
- > Like natural daylight, HMI/MSR light contains a certain proportion of UV radiation. The safety glass reduces the UV content to safe levels for normal operating distances. When used at a close operating distance, limit the exposure time of unprotected skin.
- > Before replacing fuses or the lamp, disconnect the ballast unit from the mains power supply.
- > Before the ballast unit is cleaned or serviced, and while it is not in use, it must be switched off and completely disconnected from the mains supply. Never pull on the cable itself: pull only on the plug body.
- > Allow time for the ballast unit and lamp to cool before you stow them.
- > Units with noticeable damage or which have been dropped must not be started up. Contact a broncolor service station. Service work or repairs must always be carried out by a specialist.
- > Only original spare parts must be used to guarantee long-term mechanical and electrical operating safety. Incorrect assembly can cause dangerous contact voltages, even on connected units.

## 1. STARTING UP

The ballast unit EB 800.1600 is a flicker-free electronic ballast units which are made for mains voltages from 90 V to 265 V. They adjust automatically to the mains (AC-line) voltage applied. The unit is suitable for operation with hot-restrike (HR) lamps. This means that the lamp may be switched on again at any time while hot, making waiting time unnecessary. For safety reasons, the high ignition voltages required for this purpose call for a faultless earth conductor. For this reason the unit must only be connected to a power supply with an earthed mains plug. Correct functioning of the earth conductor is indicated by the control lamp [3].

### Step 1

Fit a compatible bulb to the lamp (see Section 2: Fitting or changing a bulb) and a reflector, an adapter for a Softbox or Para (see Section 3: Mounting and removing reflectors and adapters). The lamp is equipped with an integral safety switch [17], and can only be operated when a reflector or an adapter is mounted. When it is used with an adapter, the focusing wheel [11] must be turned to the "Bare Bulb" position (bulb as far forwards as it will go) so that the safety switch is actuated and the bulb can be fired.

### Step 2

Connect the lamp to the ballast unit, and the ballast unit to the earthed mains supply. Switch on the main switch [2] and check whether the earth control LED [3] illuminates. If this is not the case, for safety reasons disconnect the ballast unit immediately from the mains and check the earth conductor.

### Step 3

Operate switch [9] on the lamp and press button [4] on the ballast unit. The bulb fires and starts operating. By operating the switch [9] on the lamp or on the ballast unit [4], the light can be switched off again.

The ballast unit has an automatic warming-up circuit, which heats the bulb quickly to its operating temperature. Except in an emergency avoid switching off the unit during the warming-up phase, because this shortens the life of the bulb. The optimum colour temperature is reached after about one minute.

Should the bulb fail to trigger, the ballast unit will switch off the ignition sequence after 2 seconds, and button [4] on the ballast unit blinks (see Section 7). To make another attempt to start, press the button [4] on the ballast unit or [9] on the lamp. To protect the igniter circuit, this is blocked for 30 seconds after about ten attempts at ignition. Afterwards further ignition attempts are possible. Take care that the ventilation slots are not obstructed on either the ballast unit or the lamp.

### Step 4

The output regulator [8] on the ballast unit can be used to set the desired light output (setting range 50 % – 100 %). When setting the output, it is important to remember that, depending on the bulb used, the colour temperature can change slightly with the output. When the bulb is switched on, the output is automatically set to the maximum so that the bulb heats up as quickly as possible. The duration of this depends on the bulb temperature when it is switched on, and is likely to be between 5 and 60 seconds. At the end of this period, the unit adjusts automatically to the setting of regulator [8].

## 2. FITTING OR CHANGING A BULB

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Before fitting or changing a bulb, the lamp must be disconnected from the ballast unit. Then remove the reflector or adapter.

**Fitting:** Turn the focusing wheel (11) on the lamp to its stop in the “flood” (bare bulb) position. The bulb socket is now extended as far as it will go. Open the two cover plates (15) and push the bulb into the socket to the stop. Afterwards, take care that the cover plates are completely closed again.

**Removing:** Caution: the bulb is hot! Allow the bulb to cool before changing it!  
Turn the focusing wheel (11) on the lamp to its stop in the “flood” position. The bulb socket is now extended as far as it will go. The bulb can now be pulled out. The two cover plates (15) are spring-loaded and can be opened.

## 3. MOUNTING AND REMOVING REFLECTORS AND ADAPTERS

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**Mounting:** Undo the retaining screw (10) on the lamp. Align the mounting pin on the reflector with the appropriate opening (20), then position the accessory and turn it 10° clockwise until you hear the security pin (16) latch. Take care not to damage the bulb while dismounting an accessory!

**Removing:** Loosen the retaining screw (10) on the lamp, then pull it straight backwards and hold it. Turn the reflector through 10° until it is released. Remove the reflector or adapter straight forwards. Take care not to damage the bulb while dismounting an accessory!

**Attention:** When operating with an adapter for a Para or Softbox, the focusing wheel (11) must be turned to the “flood” (bare bulb) position (bulb as far forwards as it will go) so that the safety switch is actuated and the bulb can be fired.

For operation with Softboxes an adapter, Art. No. 744-0310 is available as an accessory.

## 4. FITTING AND REMOVING ACCESSORIES

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Unlatch the movable jaw (28) by pushing it against the spring and fold it outwards. **The four-leaf barn doors (27, 34) and, where fitted, a scrim ring (26)** can now be introduced from above into the outer mounting grooves of the fixed claws (30). If a further accessory, such as **a filter or diffusion lens (25, 33)** is required, it can be fitted in the inner mounting grooves. Fold the moving jaw (28) down so that it latches. Turn the four-leaf barn door to make sure it is securely mounted.

## 5. FOCUSING

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The degree of focusing can be adjusted using the focusing wheel [11] on the rear face of the lamp. The adjustment function is indicated with "flood" (bare bulb) and "spot" markings. When the lamp is operated with an Open Face or a PAR reflector and a Fresnel lens fitted, then the entire focusing range can be used.

## 6. OPERATING THE LAMP WITH A PARA

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To operate the lamp in a broncolor Para reflector, an adapter [35], Art. No. 744-0330 is required. It is recommended that the lamp's yoke [21] is removed completely. To remove it, undo the screws [18] and pull the two carrier plates with the yoke towards the handle. The complete yoke can now be removed. Please ensure that the maximum permissible output of the Para reflector is not exceeded.

## 7. OPERATING MODES

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The ballast unit has three different operating modes, which can be selected by pressing the button [5] on the ballast unit. The mode selected is indicated by illumination of an LED [5 a-c]:

**low noise:** For extremely noise-sensitive shoots, up to 100 fps

**optimal:** For "normal" shoots at up to 800 fps

**high speed:** For high-speed shoots at up to 2000 fps



## 8. DISPLAY ON BALLAST UNIT



### **Mains switch [2]**

**Illuminated:** mains voltage is present. The unit is switched on.

**Not illuminated:** The unit is switched off or not connected to the mains voltage.

### **Indicator for earth conductor [3]**

**Illuminated:** The unit is switched on and the earth conductor is correctly connected.

**Not illuminated:** The unit is switched off or the earth conductor is not correctly connected.

### **Lamp control display [4]**

**Illuminated:** The lamp is switched on and the unit is functioning correctly.

**Not illuminated:** The lamp and/or the ballast unit is switched off or not connected to the mains supply.

### **(5a–c) operating mode display**

**(7a, b) display shows that the lamp has been identified**

## 9. PROTECTIVE CIRCUITS IN THE BALLAST UNIT

**The EB 800.1600 ballast unit features monitoring electronics with detailed fault diagnosis.**

**Overvoltage protection:** If the applied voltage is greater than 260 V, the ballast unit either switches off automatically, or cannot be switched on. Button (4) blinks to indicate this.

**Low-voltage protection:** If the applied voltage is below 90 V, the ballast unit either switches off automatically, or cannot be switched on. Button (4) blinks to indicate this.

**Current limitations:** When a 1600 W lamp is operated on a mains voltage below 95 V, the lamp output is automatically reduced to prevent the current exceeding 18 A. Button (7a) blinks to indicate this. Should the voltage rise above 95 V again during operation, the output will remain unchanged at the reduced level, so as to avoid continual changes in lighting.

**Thermal monitoring:** If the operating temperature of the unit is exceeded, the ballast unit automatically regulates the output gradually down to max. 50 %. This lowering of the output allows the user time to recognise the situation and to prevent or delay a total shutdown. If a shutdown occurs, for safety reasons, the unit does not automatically switch on again. The lamp must be switched on again manually.

**Igniter circuit protection:** If the bulb fails to trigger, ignition is blocked for 30 seconds after about ten attempts at ignition in succession.

# 10. FAULT DIAGNOSIS TABLE

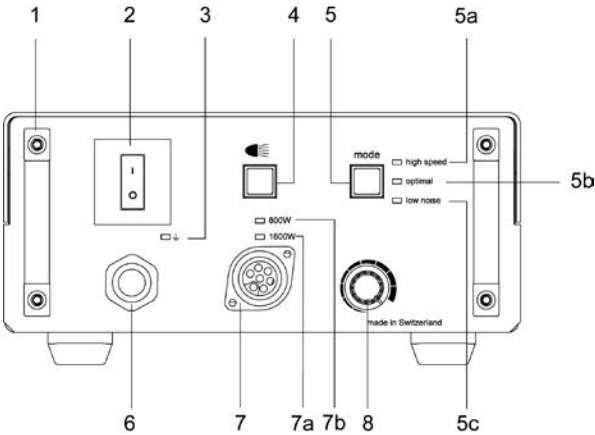
Fault detected	How to reset	Start/Stop (4)	high speed (5a)	normal (5b)	low noise (5c)	800 W (7a)	1600 W (7b)	Earth (3)
Short circuit	Restart	blinks	blinks	off	off	(on)	(on)	on
Bulb goes out	Restart	blinks	off	blinks	off	(on)	(on)	on
Wrong lamp detected	Restart	blinks	off	off	blinks	(on)	(on)	on
Supply voltage over 265 VAC	Restart	blinks	blinks	blinks	off	(on)	(on)	on
Supply voltage below 85 VAC	Restart	blinks	blinks	off	blinks	(on)	(on)	on
Operating temperature exceeded	Allow to cool	blinks	off	off	off	(on)	(on)	on
More than 10 ignition attempts	Allow to cool	blinks	off	blinks	blinks	(on)	(on)	on
Technical fault	Service station	blinks	blinks	blinks	blinks	blinks	blinks	on

# 11. OPERATING KOBOLD BALLAST UNITS FROM A MOTOR-GENERATOR SET

Ballast units are suitable for operation with motor-generator sets, in so far as the voltage under all load conditions (including capacitive loads) is within the tolerance limits of 200 – 260 V or 95 – 135V. Experience shows that this usually requires electronically-stabilised motor-generators. Unstabilised motor-generators can produce voltage peaks of 300 V and over. This may cause damage for which Bron Elektronik AG accepts no liability.

## 12. CONTROLS AND DISPLAY ELEMENTS BALLAST UNIT EB 800.1600

- 1 Grip
- 2 Main switch 0/I with integral fuse
- 3 Earth conductor indicator
- 4 Button, lamp On/Off
- 5 Button for selecting operating mode
- 5a-c Indicators for selected operating mode
- 6 Mains cable
- 7 Lamp plug socket
- 7a-b Indicators show which lamp has been identified
- 8 Rotary knob for adjusting output (dimmer)



## 13. TECHNICAL DATA, BALLAST UNIT EB 800.1600

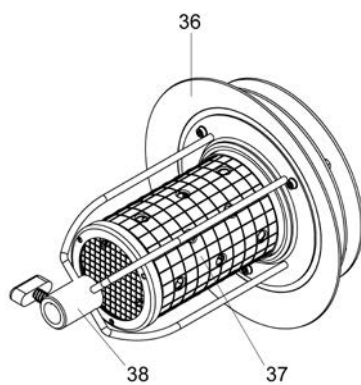
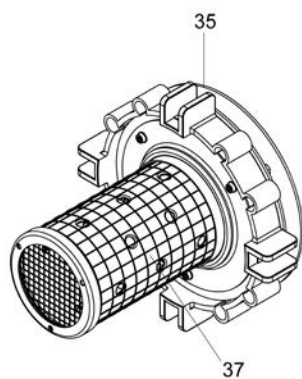
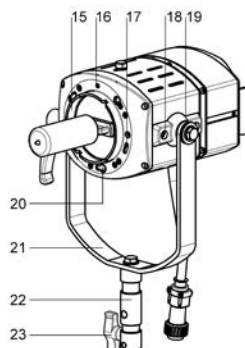
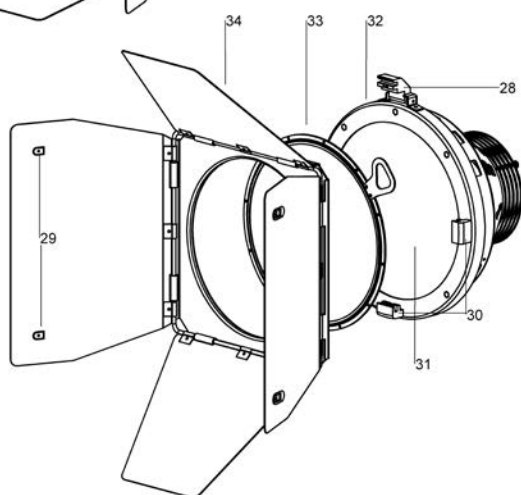
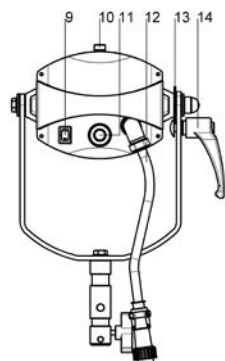
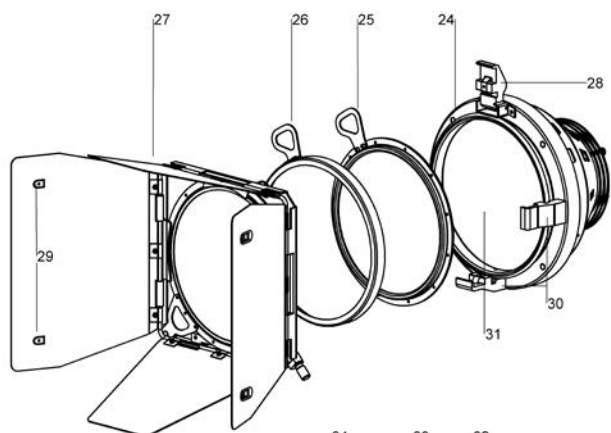
Supply power rating	1800 VA
Mains voltage	90 – 265 V
Mains frequency	50/60 Hz
Current draw 20 A	[90 VAC], 15 A [120 VAC], 8 A [230 VAC]
Power factor	99 % at 110 V / 95 % at 230 V
Lamp frequency	square-wave 50, 400, 1000 Hz
Regulation zone	50 – 100 %
Lamp detection	automatic
Start-up characteristics	cold start and hot restrike capability
Dimensions (lxbxh)	360 x 240 x 120 mm [142 x 94 x 47"]
Weight	6.9 kg [15.2 lbs]



## 14. CONTROLS AND DISPLAY ELEMENTS, LAMP D 1600

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9	On/Off switch
10	Retaining screw
11	Focusing wheel
12	Lamp cable
13	Clamping disc
14	Yoke locking handle
15	Cover plates
16	Security pin
17	Safety switch
18	Screw for removing the yoke (e.g. when mounting a Para)
19	Carrier plate for yoke
20	Slots for reflector or Softbox adapter
21	Yoke
22	28 mm [1.1"] stand spigot with 16 mm [0.6"] bore
23	Retaining screw
24	PAR reflector
25	Diffusion lens
26	Scrim ring
27	Four-leaf barn door for PAR reflector
28	Movable jaw
29	Filter clamps
30	Fixed jaws
31	Safety glass
32	Open Face reflector
33	Diffusion filter / conversion filter
34	Four-leaf barn door for Open Face reflector
35	Adapter for Softboxes
36	Adapter for Paras
37	Safety glass sleeve
38	16 mm [0.6"] mount



## 15. TECHNICAL DATA, LAMP D 1600

Output	1600 W
Bulb socket	G22
Focusing range, Open Face reflector	19° – 58°
Dimensions (lxbxh)	250 x 302 x 145/408 mm (98 x 119 x 57/161")
Weight	4.3 kg (9.5 lbs)

## 16. ORDER NUMBERS FOR SPARE PARTS AND ACCESSORIES

Ballast unit EB 800.1600	742-0176-1_4
Lamp D 1600	332-0142
Open Face reflector	741-0560
Four-leaf barn door for Open Face reflector	741-0756
Diffusion filter for Open Face reflector	713-0790
Conversion filter for PAR reflector	713-0791
PAR reflector	741-0561
Four-leaf barn door for Open Face reflector	741-0731
Scrim ring	744-0168
PAR lens set (4 off)	713-0527
PAR lens NSP	713-0710
PAR lens MFL	713-0711
PAR lens WFL	713-0712
PAR lens VWFL	713-0713
Fresnel lens	713-0534
Bag for 5 filters or lenses	763-0322
1600 W bulb G.E. CSR1600 SE/HR/UVC	633-7410
1600 W bulb Sylvania BA1600 SE/HR/UVC	633-7411
Lamp cable 7.5 m	742-0599
Lamp cable 10 m	742-0602
Lamp cable 20 m	742-0635
Adapter for Softboxes	744-0310
Adapter for Paras	744-0330
Trolley case for complete kits	733-0224
Carrying case for Para Kit	733-0225

## 17. ENVIRONMENTAL PROTECTION INFORMATION

At the end of its useful life, this product may not be disposed of as normal household waste, but should be taken to a collection point for the recycling of electrical and electronic appliances. The materials are recyclable according to their markings. By re-use, recycling, or other form of using old appliances you are making an important contribution to the protection of our environment. Please ask your sales partner or local authorities for the appropriate disposal point.

